

SLE-I Eingang

Anhang

PATENT COOPERATION TREATY

10. FEB. 2005

SB

From the INTERNATIONAL SEARCHING AUTHORITY
Visa

To:

ABB SCHWEIZ AG
Intel. Property (CH-LC/IP)

Brown Boveri Strasse 6

CH-5400 Baden

SWITZERLAND

Agenda

SB

P2

10.4.05

10.2.05

1 Feb. 2005

10.2.05

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the International application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 03/071 WO	FOR FURTHER ACTION	
see Form PCT/ISA/220 as well as, where applicable, item 5 below.		
International application No. PCT/CH2004/000734	International filing date (day/month/year) 13/12/2004	(Earliest) Priority Date (day/month/year) 15/12/2003
Applicant ABB RESEARCH LTD		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
 - b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.
- 2. Certain claims were found unsearchable (See Box II).
- 3. Unity of invention is lacking (see Box III).
- 4. With regard to the title,
 - the text is approved as submitted by the applicant.
 - the text has been established by this Authority to read as follows:

NETWORK SECURITY SYSTEM

5. With regard to the abstract,

- the text is approved as submitted by the applicant.
- the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. 2
 - as suggested by the applicant.
 - as selected by this Authority, because the applicant failed to suggest a figure.
 - as selected by this Authority, because this figure better characterizes the invention.
- b. none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/CH2004/000734

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G06F1/00 H04L29/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
 IPC 7 G06F H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 405 318 B1 (ROWLAND CRAIG H) 11 June 2002 (2002-06-11) abstract column 2, line 40 – line 67 column 4, line 30 – column 6, line 67 column 8, line 8 – line 45 figures 9,10 -----	1-10
A	WO 03/083660 A (STUTE MICHAEL ;GLOBAL DATAGUARD INC (US)) 9 October 2003 (2003-10-09) the whole document -----	1-10
A	WO 02/23808 A (CYMTEC SYSTEMS INC) 21 March 2002 (2002-03-21) the whole document -----	1-10
		-/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *&* document member of the same patent family

Date of the actual completion of the international search

3 February 2005

Date of mailing of the international search report

10/02/2005

Name and mailing address of the ISA

 European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
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Authorized officer

Horn, M.P.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CH2004/000734

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/093527 A1 (SHERLOCK KIERAN G ET AL) 18 July 2002 (2002-07-18) the whole document -----	1-10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/CH2004/000734

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
✓ US 6405318	B1	11-06-2002	AU WO	3737400 A 0054458 A1	28-09-2000 14-09-2000	
✓ WO 03083660	A	09-10-2003	EP WO	1490768 A1 03083660 A1	29-12-2004 09-10-2003	
✓ WO 0223808	A	21-03-2002	AU WO	9086101 A 0223808 A2	26-03-2002 21-03-2002	
US 2002093527	A1	18-07-2002	AU AU AU AU AU AU AU AU AU AU AU AU AU AU AU AU AU AU US	6676401 A 6695501 A 6840801 A 6849101 A 6849201 A 6987001 A 7131501 A 7542701 A 0199031 A2 0199349 A2 0199343 A2 0198932 A2 0199002 A2 0199371 A2 0199372 A2 0199373 A2 2004030796 A1	02-01-2002 02-01-2002 02-01-2002 02-01-2002 02-01-2002 02-01-2002 02-01-2002 02-01-2002 27-12-2001 27-12-2001 27-12-2001 27-12-2001 27-12-2001 27-12-2001 27-12-2001 27-12-2001 12-02-2004	
						26-02-2004
						27-03-2003
						06-11-2003
						06-06-2002
						02-05-2002

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

		Date of mailing (day/month/year) see form PCT/ISA/210 (second sheet)
Applicant's or agent's file reference see form PCT/ISA/220		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/CH2004/000734	International filing date (day/month/year) 13.12.2004	Priority date (day/month/year) 15.12.2003
International Patent Classification (IPC) or both national classification and IPC G06F1/00, H04L29/06		
Applicant ABB RESEARCH LTD		

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
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Authorized Officer

Horn, M.P.

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10/582633

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/CH2004/000734

AP3 Rec'd PCT/PTO 12 JUN 2004

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material:
 in written format
 in computer readable form
 - c. time of filing/furnishing:
 contained in the international application as filed.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/CH2004/000734

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-5, 9
Inventive step (IS)	Yes: Claims	
	No: Claims	6-8, 10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

10/582633

AP3 Rec'd PCT/PTO 12 JUN 2004

International application No.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

PCT/CH2004/000734

Re Item V.

- 1 The following document is referred to in this communication:

D1 : US 6 405 318 B1 (ROWLAND CRAIG H) 11 June 2002 (2002-06-11)

- 2 As far as independent claim 1 is clear it does not fulfill the requirements of Article 33(1) PCT because its subject-matter is not new in the sense of Article 33(2) PCT.

- 2.1 Document D1 discloses, in terms of claim 1, a network security system for detecting security relevant irregularities in a network (column 2, lines 40-41: "*The present invention provides a real-time intrusion detection method and system*"), comprising

data sources located on and constituting the network, with means for generating network-security relevant data (column 8, lines 12-16: "*Each host 151-153 comprises a local controller that sends information about log auditing, login anomaly detection, logout anomaly detection, session monitoring and port scan detector functions to the central controller.*"; figure 9);

an input module [for a processing module], with input handlers for various protocols to connect to the data sources (follows implicitly from column 8, lines 12-16: "*Each host 151-153 comprises a local controller that sends information about log auditing, login anomaly detection, logout anomaly detection, session monitoring and port scan detector functions to the central controller.*"; figure 9);

at least one processing module, connected to said input module for access to said data sources, with means for translating said network-security relevant data into quantitative variables (column 8, lines 16-20: "*The central controller can perform centralized auditing of events 154, data analysis 155, cross correlation of intrusion activity throughout the network 156 [...]*"; column 8, lines 38-40: "*The system administrator may also alter the alarm thresholds or use preprogrammed alarm thresholds 168.*", figures 9, 10);

a supervisory system, with means for presenting processed data to a security system operator (column 8, lines 16-20: "*The central controller [...] can alert the*

network system administrator 157 if anomalous activity is found."; column 8, lines 40-42: "*The system administrator may select whether a warning is to be displayed on the system administrators graphical user interface 169.*" figures 9, 10);

and an interface module, with means for transferring said quantitative variables from the processing module to the supervisory system (follows implicitly from column 8, lines 40-42: "*The system administrator may select whether a warning is to be displayed on the system administrators graphical user interface 169.*"; figure 10).

- 2.2 Insofar as claim 10 can be understood, it does not involve an inventive step according to Article 33(3) PCT. The integration of the supervisory system and the countermeasure initiating means of a network security system into the respective means of an automation system operator workstation is a juxtaposition of known devices functioning in their normal way and not producing any non-obvious working interrelationship. This view is also in-line with the problem statement on page 6, paragraph 3 of the description: providing the display to a person available round-the-clock which is often the case for a process operator of an automation system. An unexpected technical effect of the integration of these two different system cannot be recognized.
- 3 Dependent claims 2-9 do not contain any additional features that would lead to patentable subject-matter (Article 33(2) and (3) PCT) as they are either disclosed in document D1 (claims 2, 3, 4, 5, 9) or are non-technical as they relate to the representation of information (claims 6, 7, 8).

Re Item VII.

1. The independent claims should be in the two-part "characterized" form required by Rule 6.3(b) PCT, having a pre-characterising part that correctly reflects the closest prior-art.
2. The features of the claims should be provided with reference signs placed in parentheses to increase the intelligibility of the claim (Rule 6.2(b) PCT). This applies to both the preamble and characterising portion.

3. To meet the requirements of Rule 5.1(a)(ii) PCT, the document D1 should be identified in the description and the relevant background art disclosed therein should be briefly discussed.

Re Item VIII.

1. Claims 1, 2, 3, 8 and 10 are not clear in the sense of Article 6 PCT.
 - 1.1. Claim 1 is not clear because they fail to specify to which entity the "input module" belongs to or, in other words, for which entities the "input module" serves as an input (for the data sources or for the processing module?). The claim is thus not clear for a man skilled in the art from its wording alone.
 - 1.2. The frequent use of the conjunction pair "and/or" in claims 1, 3 and 8 and the enumerations of features in claims 2 and 3 together with the statement "and any combination thereof" render the subject-matter for which protection is sought unclear due to the amount of possible alternatives introduced by this wording. It is therefore not possible to examine the entire scope of protection of these claims.
 - 1.3. Claim 3 is not clear because it refers to additional features which are not part of independent apparatus claim 1 per se. Indeed, claim 1 refers to a network security system whereas claim 3 specifies how numerical and textual values are "maintained".
 - 1.4. Claim 10 is not clear because it specifies "said status and trend presenting means", "the supervisory system" and to "said countermeasures initiating means" without an antecedent definition of these terms. Instead, there is precedent subject-matter relating to "displaying means" and "reaction facilities".
 - 1.5. Independent claim 10 has to contain all essential technical features and should not refer to the subject-matter of other claims in particular when this subject-matter relates to different entities.
 - 1.6. Claim 10 specifies "an automation system operator workstation **in a network with** an automation system [...]" which induces ambiguity regarding the subject-matter for which protection is sought. It is not clear if the claim relates to an automation

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.
PCT/CH2004/000734

system operator workstation or to an automation system comprising a system operator workstation and a network.

- 1.7. Furthermore, claim 10 introduces ambiguity regarding the subject-matter for which protection is sought by specifying: "system operator workstation **being connected** to a security system". Indeed, the claim defines its subject-matter by reference to another entity. The claim has to be clarified by, for example, specifying "**connectable**".